"Printers" Common Criteria between Thailand Green Label and Japan Eco Mark

2014/9/25

TGL-37-R1-12 "Printer"

Eco Mark No.155 "Imaging Equipment Such As Copiers, Printers, etc. Version1"

No	TGL Criteria	No.155 Criteria	H/M
0			**Scope: Both parties agreed that the scope includes all types of Printers and MFD.**
1	4.1 The product must be certified or tested for electric safety compliance testing as defined in the international standard IEC 60950 Part1: International Safety Standard for Information Technology Equipment part 1 or industrial standard for information technology safety: general requirements TIS 1561 or equivalent.		**Non-harmonized**
2	4.2 The products must be tested for electromagnetic compatibility (EMC) for IT equipment standard CISPR 22: Information technology equipment-Radio disturbance characteristics-Limits and methods of measurement or information technology equipment standard: radio disturbance limit TIS 1956 or EN 55022: Limits and methods of measurement of radio disturbance characteristics of information technology equipment or equivalent.		**Non-harmonized**
3	4.3 Production, transportation, and disposal of waste from the production process must follow the law and regulations of the government.	(28) In manufacturing the applied product, related environmental laws and regulations and pollution control agreement (hereinafter referred to as the “Environmental Laws, etc.”) must be followed with respect to air pollution, water contamination, noise, offensive odor, and emission of hazardous materials in the area where the plant performing the final manufacturing process is located. In addition, the state of compliance with the Environmental Laws, etc. for the last five years from the date of application (whether there is any violation) must be reported. If there is any violation, it is necessary that proper remedies and preventive measures have been already taken, and the related Environmental Laws, etc. must thereafter be followed appropriately.	**Harmonized**
4	5.1 The power consumption complies with the requirements of International Energy Star Program Requirements for Imaging Equipment.	(15) A product shall conform to the ENERGY STAR ® “Product Specification for Imaging Equipment: Eligibility Criteria” that is applied at the time of application.	**Harmonized**
5	**Note** The power consumption must not exceed 2 watts while switch off.	See (15)	

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6	5.2 The sound level of the machine during use must be in the specified range and calculated using the formula shown below but must not exceed 75 decibels (dB). 1. Monochrome printing: ≤0.35*Sbw+59 and ≤ 75 2. Color printing (Parallel euipment): ≤ 0.3*Sco+61 and ≤75 Note Sbw = Operation speed for monochrome printer in pages per minute Sco = Operation speed for color printer in pages per minute Calculated by reference to the criteria of Germany's Green Label. RAL-UZ-122: 2006 (Clause 3.5).	(19) For electrophotographic equipment, values obtained with the measuring method defined by RAL-UZ171 shall confirm to Table 3 for emission of hazardous materials during operation of monochrome equipment as well as during the monochrome and color operation phases of color equipment. The large format equipment shall be measured in accordance with Table 3-1. If the emission rate during the color operation phase of color equipment satisfies the monochrome criteria, measurements during the monochrome operation phase can be omitted. Note that for equipment on which measurements took place before April 2014, test results according to the Blue Angle RAL-UZ122 shall also be acceptable. Declared A-weighted sound power level "LWAd"(B) Monochrome: ≦0.035*Sbw +5.9 and ≦7.5 Color: Parallel equipment: ≦0.03*Sco+6.1 and ≦7.5 Serial equipment: Submit reference values for the equipment of Sco<0.5 Sbw Sbw : Operating speed in pages per minute for monochrome printing Sco : Operating speed in pages per minute during color printing	**EP and IJ: Harmonized** **other Printers: Non-harmonized**
7	5.3 The concentration of Dust, Ozone (Ozone), all volatile organic compounds (TVOC), Styrene and Benzene in the printer must not exceed the limit described below	(19) For electrophotographic equipment, values obtained with the measuring method defined by RAL-UZ171 shall confirm to Table 3 for emission of hazardous materials during operation of monochrome equipment as well as during the monochrome and color operation phases of color equipment. The large format equipment shall be measured in accordance with Table 3-1. If the emission rate during the color operation phase of color equipment satisfies the monochrome criteria, measurements during the monochrome operation phase can be omitted. Note that for equipment on which measurements took place before April 2014, test results according to the Blue Angle RAL-UZ122 shall also be acceptable.	**Harmonized**

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	However Ink jet printer and thermal printer must be tested only TVOC Monochrome: Dust≤4.0, Ozone≤1.5, TVOC print phase≤10, TVOC Ready phase Floor-mounted Equipment≤2.0, TVOC Ready phase Desktop products≤1.0, Styrene≤1.0 and Benzene≤0.05 Color: Dust≤4.0, Ozone≤3.0, TVOC print phase≤18, TVOC Ready phase Floor-mounted Equipment≤2.0, TVOC Ready phase Desktop products≤1.0, Styrene≤1.8 and Benzene≤0.05 Note:1. Printer for color printing must be tested in monochrome and color printing mode and if the color printing mode test result pass the test of monochrome printing mode, there is no need to test in monochrome printing mode. 2. A test based on the requirements of Appendix 2 of Germany's Green Label RAL-UZ-122: 2006.	(21) For equipment other than electrophotographic equipment (excluding scanners), values obtained with the measuring method defined by RAL-UZ171 shall conform to Table 4 for emission of hazardous materials during operation of monochrome equipment as well as during the monochrome and color operation phases of color equipment. The large format equipment shall be measured in accordance with Table 3-1. If the emission rate during the color operation phase of color equipment satisfies the monochrome criteria, measurements during the monochrome operation phase can be omitted. Note that for equipment on which measurements took place before April 2014, test results according to the Blue Angle RAL-UZ122 shall also be acceptable. Monochrome: Dust* ≤4.0, Ozone* ≤1.5, TVOC print phase≤10, TVOC Ready phase Floor-mounted Equipment≤2.0, TVOC Ready phase Desktop products≤ 1.0, Styrene≤1.0, Benzene<0.05 and Unidentified Single Substances VOC ≤ 0.9 * only EP Color: Dust* ≤4.0, Ozone* ≤3.0, TVOC print phase≤18, TVOC Ready phase Floor-mounted Equipment≤2.0, TVOC Ready phase Desktop products≤1.0, Styrene≤1.8, Benzene<0.05 and Unidentified Single Substances VOC ≤ 0.9 * only EP	
8	5.4 Plastic parts 5.4.1 Must not use plastics with halogen substances as additives in plastic structure parts with weight more than 25 grams, including not using halogen substances as a mixture, excepting the use of fluorooganic additives is allowed but not exceed 0.5 percent by weight, such as anti-dripping substances of plastic when hot.	(16) Polymer containing halogen shall not be used for plastic casing parts. In addition, organohalogen compounds as flame retardants shall not be added as prescribed constituents. However, this item shall not apply to a part that falls under one or more of the following a. to e.: a. Fluoroorganic additives (for example, anti-dripping agents, etc.) used to improve the physical properties of plastics, provided that they do not exceed 0.5wt%. b. Fluoroplastics, for example, PTFE, etc. c. Plastic materials of 25g or less (this criterion applies to keys of the keyboard even if it weighs 25g or less.) d. Plastic parts installed adjacent to heating and fusing units. e. Large-sized reused plastic parts which are marked in accordance with Appendix 1 “Product Design Checklist” B10.	**Harmonized**

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9	5.4.2 Plastic parts and electronic components must not contain flame retardants such as Polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE) or chlorinated paraffin containing 10 to 13 of carbon atom chain and the chlorine concentration greater than 50 percent.	(18) The content rate of lead, mercury, cadmium in the product, hexavalent chromium compounds, Polybrominated biphenyl (PBB) or Polybrominated diphenylether (PBDE) in the product shall comply with Annex II (Table 2) of the amended RoHS Directive (2011/65/EU). However, this does not apply to those substances specified in Annex III. In addition, the product shall have no flame retardant of short-chain chlorinated paraffin (the number of chained C is 10 to 13 and contained chloride concentration is 50% or over) added as formulated components.	Harmonized
10	5.4.3 Plastic parts heavier than 25 grams per piece or the surface area more than 200 square mm per piece must have a symbol indicating the type of plastic according to the standard symbol for recycling plastics TIS 1310 or an abbreviation indicating the type of plastic, according to ISO 1043 or ISO 11469.	(1) Equipment shall conform to Appendix1 “Product Design Checklist”. B10 Are plastic parts weighing 25 g or more and having a flat surface larger than 200 mm2 marked in accordance with ISO 11469, taking ISO 1043 into consideration? Entire unit (Plastic parts contained in reused complex assemblies are not included.)	Harmonized
11	5.4.4 The Product must meet the following criteria. ・Lead, Mercury, Hexavalent Chromium Valence caused by impurities and contaminations from raw materials for each type, not exceeding 0.1 (1000 ppm) by weight of homogeneous material. ・Cadmium caused by impurities and contamination from raw materials not exceeding 0.01 (100 ppm) by weight of homogeneous materials.	(18) The content rate of lead, mercury, cadmium in the product, hexavalent chromium compounds, Polybrominated biphenyl (PBB) or Polybrominated diphenylether (PBDE) in the product shall comply with Annex II (Table 2) of the amended RoHS Directive (2011/65/EU). However, this does not apply to those substances specified in Annex III. In addition, the product shall have no flame retardant of short-chain chlorinated paraffin (the number of chained C is 10 to 13 and contained chloride concentration is 50% or over) added as formulated components.	Harmonized
12	5.4.5 Plastic parts that weigh more than or equal to 25 grams must not contain substances that are listed in Table 3.2 of Appendix VI of Regulation (EC) No.1272/2008 in the following category. - Carcinogenic Category 1 (Carc. 1). - Carcinogenic Category 2 (Carc. 2). - Carcinogenic Category 3 (Carc. 3). - Mutagenic Category 1 (Mut. 1). - Mutagenic Category 2 (Mut. 2). - Mutagenic Category 3 (Mut. 3). - Toxic to Reproduction Category 1 (Repr. 1). - Toxic to Reproduction Category 2 (Repr. 2). - Toxic to Reproduction Category 3 (Repr. 3) substances listed in Annex 1 of the EC council Directive 67/548/EEC.	(17) Each substance listed in the following a. to e. shall not be added to plastic casing parts as prescribed constituents. a. Carcinogenic substances based on Category 1A or 1B of Table 3.1 in Annex VI of EC Regulation 1272/2008/EC b. Mutagen based on Category 1A or 1B of Table 3.1 in Annex VI of EC Regulation 1272/2008/EC c. Reproductive toxic substances based on Category 1A or 1B of Table 3.1 in Annex VI of EC Regulation 1272/2008/EC d. Persistent, bio-accumulative and toxic substances (PBTs) or very persistent or very bio-accumulative substances (vPvBs) based on the criteria in Annex XIII of the REACH Regulation e. Substances of very high concern in the list (so-called “list of SVHC candidates”) in REACH Regulation, Article 59, para. 1.	Harmonized
13	5.5 Design of printer products must follow 3R Design as the principles as specified in the check list for 3R Design.	(1) Equipment shall conform to Appendix1 “Product Design Checklist”.	Harmonized

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14	5.6 Photo sensitive drum in the printer must not contain lead, cadmium, mercury and selenium.	(22) Cadmium, lead, mercury Selenium and their compounds shall not be added as prescribed constituents to photoconductor drums used in the product.	Harmonized
15	5.7 Back up battery for printers 1) Must not contain lead..		Non-harmonized
16	2) Mercury and cadmium shall comply with in updating the EU Battery Directive.	(29) A battery built in the product shall comply with the EU Directive 2013/56/EU (Table 6).	Harmonized
17	3) Must be replaced or removed without removing a printed circuit board.	(1) Equipment shall conform to Appendix1 "Product Design Checklist". C5 When batteries installed in equipment reach the end of their life or are repaired, replacement or removal thereof shall be possible, without removing an entire printed circuit board, etc. on which the batteries are mounted.	Harmonized
18	5.8 Saving paper. 5.8.1 Electrophotographic printer can perform two-side printing. If the printer can print in both color and black, the test will be only color. Monochrome: 0<PPM<24 = Not applicable, 25≤ PPM≤44 = Standard function at purchasing, or optional function, PPM≥45 = Standard function at purchasing Color: PPM≥19 = Not applicable, 20≤PPM≤39 = Standard function at purchasing, or optional function, PPM≥40 = Standard function at purchasing	(9) Equipment to which TEC of ENERGY STAR® Product Specification for Imaging Equipment Version 2.0 is applied shall meet the requirements of the automatic duplexing function in Table 1. However, this item does not apply to equipment intended to print on special single-sided media for the purpose of single sided printing (e.g., release coated paper for labels, direct thermal media, etc.). Equipment to which the Operation Mode is applied (excluding scanners) or equipment to which the automatic duplexing function as described above is not applied shall have a printer driver with the capability of reducing paper usage (reduced printing, page layout printing, etc.). Monochrome Double side printing 0＜ipm ≤24 Not applicable 24≤ ipm <37 Standard function at purchasing, or optional function ipm≥37 Standard function at purchasing Color Double side printing ipm≤19 Not applicable 19< ipm <35 Standard function at purchasing, or optional function ipm≥ 35 Standard function at purchasing	Harmonized

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19	5.8.2 All type of printers can print on office paper made from recycling pulp not less than 40 percent.	(8) If paper to be used falls under a. to c. listed below, based on the provisions on quality control of each company, use of at least one or more type of paper shall be possible: a. Applicable scope “PPC paper, business forms and coated paper for color printers (paper for ink jet printing)” of Eco Mark Product Category No. 106 “Paper for Communication Version 3” b. Applicable scope “Printing paper (Excluding drawing papers included in the “writing and art papers” category designated in the “Paper and Pulp Statistics Annual Report” by the Ministry of Economy, Trade and Industry.) of Eco Mark Product Category No. 107 “Printing Paper Version 3” c. [Information Paper] “Copier paper, forms, coated inkjet color printer paper”, and [Printing Paper] “Non coated printing paper, coated printing paper” of “2. Paper” of the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities However, this item is not applied to a scanner and an imaging equipment which uses only thermal paper, continuous forms, large format forms or photo / postcard paper.	Harmonized
20	5.9 In the production process, do not use chemicals on the list, as shown in Table 3 in the final (end production) production process of the printer body, motherboard or cleaning products for reuse.		Non-harmonized
21	5.10 Ink and Ribbon 5.10.1 Solid or liquid ink and ribbon used in the cartridge and the ink bar must not contain the following substances 1) compounds of mercury, lead, cadmium, nickel and chromium (+6)	(25) Cadmium, lead, mercury, hexavalent chromium, nickel or compounds thereof shall not be added as prescribed constituents in toners, inks or solid inks (colourants), etc. (excluding complex compounds of high molecular weight nickel as a colouring agent). For example, production-related contaminations of heavy metals caused by production, such as cobalt or nickel oxides, are to be kept as low as technically and economically possible (request for minimization).	Harmonized

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22	2) The substance listed in Table 3.2 of Appendix VI of Regulation (EC). No.1272/2008 * in the following category. - Carcinogenic Category 1 (Carc. 1). - Carcinogenic Category 2 (Carc. 2). - Carcinogenic Category 3 (Carc. 3). - Mutagenic Category 1 (Mut. 1). - Mutagenic Category 2 (Mut. 2). - Mutagenic Category 3 (Mut. 3). - Toxic to Reproduction Category 1 (Repr. 1). - Toxic to Reproduction Category 2 (Repr. 2). - Toxic to Reproduction Category 3 (Repr. 3) Or The following substances which need to be labeled as “R” in accordance with Annex I of the EC Directive 67/548/EEC.	(24) Each substance listed in the following a. to f. shall not be added to toners, inks or solid inks, etc. (colourants) as prescribed constituents. a. Carcinogenic substances according to Category 1A, 1B or 2 of Table 3.1 in Annex VI of EU Regulation 1272/2008/EC b. Mutagen according to Category 1A, 1B or 2 of Table 3.1 in Annex VI of EU Regulation 1272/2008/EC c. Reproductive toxic substances according to Category 1A, 1B or 2 of Table 3.1 in Annex VI of EU Regulation 1272/2008/EC d. Persistent, bio-accumulative and toxic substances (PBTs) or very persistent or very bio-accumulative substances (vPvBs) according to the criteria in Annex XIII of the REACH Regulation e. Alternatively, substances of very high concern, particularly warned for other reasons, or for being indicated in the list (the so-called “list of SVHC candidates) according to REACH Regulation, Article 59, para. 1. f. Substances which require labelling of the mixtures that contains the following H or R phrases according to Table 3.1 or 3.2 in Annex VI of EU Regulation 1272/2008/EC, or those which meet the requirements for homogeneous mixture classification: H 370 (R 39/23/24/25/26/27/28) Causes damage to organs H 371 (R 68/20/21/22) May cause damage to organs H 372 (R 48/25/24/23) Causes damage to organs H 373 (R 48/20/21/22) May cause damage to organs	**Harmonized**
23	3) Substances in Table 3.2 of Appendix VI of Regulation (EC) No.1272/2008 of the required hazard symbol "R-" or "H-" as below - H 370 (R39/23/24/25/26/27/28): Specific target organ toxicity-single exposure, hazard category 1. - H 371 (R68/20/21/22): Specific target organ toxicity-single exposure, hazard category 2. - H 372 (R48/25/24/23): Specific target organ toxicity-repeated exposure, hazard category 1. - H 373 (R48/20/21/22): Specific target organ toxicity-repeated. exposure, hazard category 2 or Annex III, in Directive 67/548/EEC.	see (24)	**Harmonized**
24	4) Substances in Table 3.2 of Appendix VI of Regulation (EC) No.1272/2008 in the group H317 (Skin Sensitivity) or Substances required to be marked by R43 (May cause sensitization by skin contact) Annex III, in Directive 67/548/EEC.	see (24)	**Harmonized**
25	5) The substance is classified in the group of carcinogens, mutagen or substances toxic to reproductive system, allowing the concentration by TRGS 905 however this does not include carbon black.	see (24)	**Harmonized**
26	5.10.2 Must not use azo (dye or pigment) in ink that can change to amines substances through the decomposition of one or multiple of azo compounds. (Test method must be in accordance with Section 35 of the Act of Foods and Goods of Germany) as Figure1 below.	(26) Toners, inks, or solid inks, etc. (colourants) shall not use azo colouring agents (dyes and pigments) that generate amines listed in Table 5 due to the reduction of one or more azo groups (according to the official test method corpus based on the German Law on Foods and Sundries Article 35:Amitliche Sammlung Von Untersuchungsverfahren nach 35 LMBG).	**Harmonized**

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27	5.10.3 Plastic parts of the cartridge. 1) Plastic parts must not contain flame retardant such as Polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE) or chlorinated paraffin containing 10 to 13 carbon atoms in the chain and the chlorine concentration greater than 50%.	(18) The content rate of lead, mercury, cadmium in the product, hexavalent chromium compounds, Polybrominated biphenyl (PBB) or Polybrominated diphenylether (PBDE) in the product shall comply with Annex II (Table 2) of the amended RoHS Directive (2011/65/EU). However, this does not apply to those substances specified in Annex III. In addition, the product shall have no flame retardant of short-chain chlorinated paraffin (the number of chained C is 10 to 13 and contained chloride concentration is 50% or over) added as formulated components.	Harmonized
28	2) Colors used in plastic parts have no lead, mercury, cadmium and chromium (+6).	(18) The content rate of lead, mercury, cadmium in the product, hexavalent chromium compounds, Polybrominated biphenyl (PBB) or Polybrominated diphenylether (PBDE) in the product shall comply with Annex II (Table 2) of the amended RoHS Directive (2011/65/EU). However, this does not apply to those substances specified in Annex III. In addition, the product shall have no flame retardant of short-chain chlorinated paraffin (the number of chained C is 10 to 13 and contained chloride concentration is 50% or over) added as formulated components.	Harmonized
29	3) The outer shell and plastic structure of the cartridge must be able to recycling of no less than 95 percent by weight.	(7) The recovery rate of collected toner cartridges, toner containers or ink cartridges shall be 95% or more of the total weight of collected used products (excluding toner/ink). Parts of collected toner cartridges, toner containers or ink cartridges which cannot be recovered shall not be simply landfilled but be appropriately processed after the weight reduction.	Harmonized
30	4) External shell plastic parts must be made of homopolymer, copolymer and polymer blends plastics for easy separation	(3) Each individual plastic casing part of more than 25g shall be made of one single polymer or polymer blends. In addition, all plastic parts of more than 25g used for casing parts shall be made of four or fewer types of mutually separable polymers or polymer blends. (1) Equipment shall conform to Appendix1 “Product Design Checklist”. B1 If labels, etc. to be attached to plastic casing parts are difficult to separate, they must be made of the same material as the plastic parts, or any material that does not prevent recycling.	Harmonized

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31	5.10.4 Must have the place to return used ink catridge. This information should be available through different kinds of media such as user manual, website and other print media.	(32) Information on the matters (table below) related to collection/recycling, resource saving, energy saving, and impact on human health shall be provided to users. Basically, information shall be provided in instruction manuals in an easy-to-understand manner, and attempts shall be made to widely distribute information by utilizing websites, leaflets, etc. However, for the items 1), 2), and 3) a, if up-to-date or detailed information is provided through websites, leaflets, etc., it shall be accepted as being equivalent to that described in the instruction manuals. 1) Information on collection/recycling and appropriate disposal	Non-harmonized
32	5.11 Packaging 5.11.1 In case of plastic package. 1) Plastic packaging material must not use substances as shown in Table 4 below. Table 4 : A group of prohibited synthetic chemicals that are mixed with chlorine to be used in plastic parts	(14) Packaging or packing of equipment shall be as simple as possible and give consideration to ease of reuse and environmental burden when packaging or packing materials are disposed of. Specifically, the product shall comply with “Packaging Material Check List” of Appendix 2.	Harmonized
33	2) Plastic package must not contain halogenated compounds and organic halogenides as elements	(14) Packaging or packing of equipment shall be as simple as possible and give consideration to ease of reuse and environmental burden when packaging or packing materials are disposed of. Specifically, the product shall comply with “Packaging Material Check List” of Appendix 2.	Harmonized
34	5.12 Indicating the detailed information (in Thailand) as follows in user manual/attached documents given to consumers when buying the products.	(32) Information on the matters (table below) related to collection/recycling, resource saving, energy saving, and impact on human health shall be provided to users. Basically, information shall be provided in instruction manuals in an easy-to-understand manner, and attempts shall be made to widely distribute information by utilizing websites, leaflets, etc. However, for the items 1), 2), and 3) a, if up-to-date or detailed information is provided through websites, leaflets, etc., it shall be accepted as being equivalent to that described in the instruction manuals. 1) Information on collection/recycling and appropriate disposal 2) Information on resource saving 3) Information on energy saving 4) Information on effect on human health	Non-harmonized
	1) The product placement recommendation in the appropriate location.	See (32)	
	2) If the manufacturer has buyback service for carcasses, packages and carcass parts which must be refilled or replaced when in use, there must be an instruction on how to return the carcasses.	See (32)	
	3) For laser printer, there must be an instruction about the right time to replace the used ozone filter (if any).	See (32)	

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	4) Information on the product warranty.	See (32)	
	5) Information on the proper use of recycling paper.	See (32)	
	6) Information on after-sales service and contact phone number.	See (32)	
	7) Recommendations for cartridge use safety Eco Mark Printer V.2.6.	See (32)	
	8) If the sound produced from the product is more than 63 decibels (dB), it should not be placed in a room with people normally working in. There should be separated space for placing printer RAL-UZ 122 pages 43/46.	See (32)	